

Weekly Report 2016.11.07-2016.11.13

Progress:

1. Huawei Project

This week I added some new interactions into the system and fixed some bugs.

The patent was almost done.

Feiran said that this project will be checked by the Cooperation Department.

2. Temporal Ensemble Rankings

This week I talked to Prof. Wu. We planned to change the paper type to a technique paper, which presents the technique of visual analytics of temporal ensemble rankings. Structural holes will be one of the case studies and another data base might be the ranking of universities or rankings of search results.

Prof. Wu also asked me to check if the fuzzy logic can be add into our paper. I read the paper *Semantic Layers for Illustrative Volume Rendering* and I think fuzzy logic might work in the calculation of the distances between two ensemble time-series. Next week we will implement the algorithm and check if it will work.

3. Seminar Report

Next week I will report the paper *Visualizing Dynamic Hierarchies in Graph Sequences*, so I prepared the ppt for the presentation.

Plan:

1. Huawei Project

Write the patent and go to Huawei for final check.

2. Temporal Ensemble Ranking Data

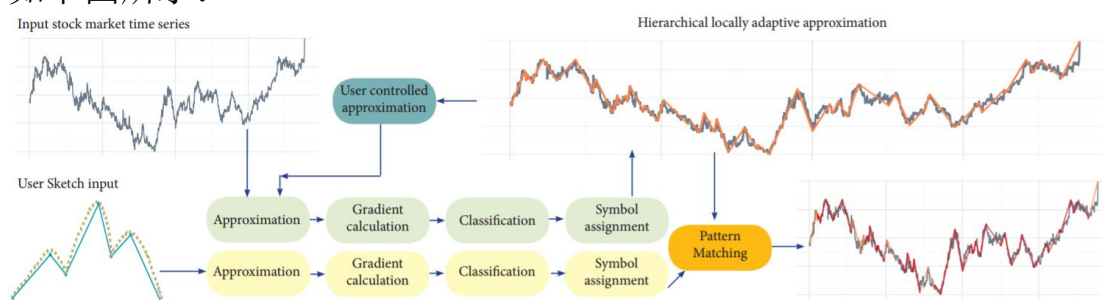
Talk with Prof. Wu, and revise the paper as soon as possible.

3. Make the poster for vis

论文阅读

1. Shape Grammar Extraction for Efficient Query-by-Sketch Pattern Matching in Long Time Series

这篇文章提出了一种支持用户输入 pattern 匹配时序序列的时序序列分析方法。作者利用了形状语法和正则表达式，结合类似 SAX 的算法将时序序列减化成简单的字符序列，进行快速的查询。整个流程如下图所示：



Temporal ensemble rankings 这篇文章也许也可以加上这种 sketch query 的交互方式。

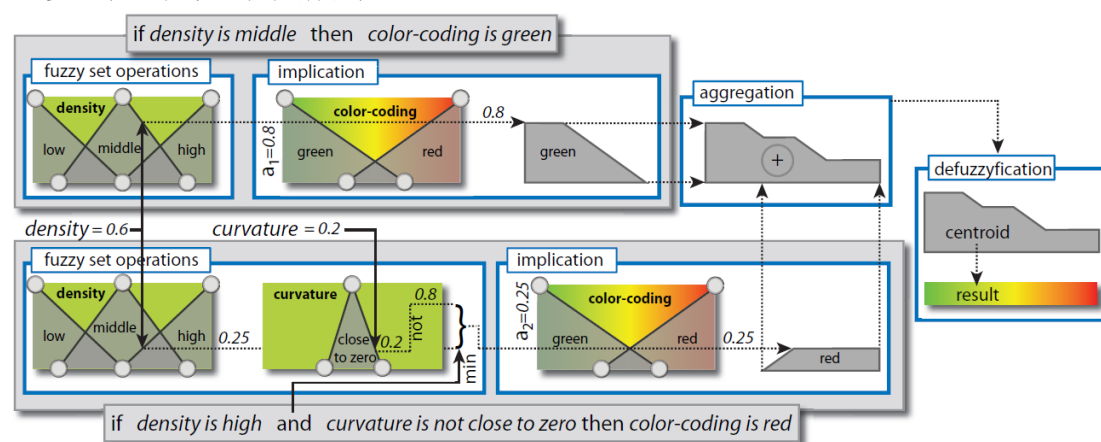
2. Magnostics: Image-based Search of Interesting Matrix Views for Guided Network Exploration

这篇文章介绍了 Magnostics 方法。文章中提出了六种特征描述子（Feature descriptors），每种特征描述子度量了一个矩阵的一种常见的特征，比如星状结构，全图结构等。每种特征都对应于网络的一种拓扑结构。

3. Semantic Layers for Illustrative Volume Rendering

读这篇文章的主要原因是因为这篇文章用到了 fuzzy logic 的形式来辅助用户调传输函数。

主要的流程如下图所示：



4. Visual Reasoning about Social Networks Using Centrality Sensitivity

这篇文章研究了网络的变化对于 centrality 度量的影响。并描述了通

过这种影响来进行可视推理的技术。